

Training Presented by:

Building Officials Association of Florida

and

Florida Home Builders Association

as a Result of a Grant from:

Florida Department of Business and Professional

Regulation through Building a Safer Florida, Inc.



**Significant Changes to the 2010
Florida Building Code,**

**Existing Building, Mechanical,
Plumbing, Energy Conservation**

MODULE 3 – 1 hour



Presented by The Florida Home Builders Association

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The Building Officials Association of Florida

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Provider #0004764



FBC-EB Table 611.8.1

Add notes to Table 611.8.1:

- a. The uplift loads are pounds per lineal foot of building length. For roof uplift connections multiply by 1.33 for framing spaced 16 inches on center and multiply by 2 for framing spaced 24 inches on center.
- b. The uplift loads do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing spaced 12 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.

MOD 3512 AM

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FBC-EB 611.8.1.7

611.8.1.7 Priorities for mandated roof-to-wall retrofit expenditures. Priority shall be given to connecting the exterior corners of roofs to walls where the spans of the roofing members are greatest. For houses with both hip and gable roof ends, the priority shall be to retrofit the gable end roof-to-wall connections unless the width of the hip end is more than 1.5 times greater than the width of the gable end.

When considering priorities for houses with both hip and gable roof ends, and the fifteen percent of the cost of roof replacement is sufficient to complete all of the prioritized elements pursuant to this section, but is not sufficient to complete all of the non-prioritized elements, then no portion of complete retrofit of the non-prioritized element is required.

MOD 3849 AM

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FBC-EB 611.8.1.4

611.8.1.4 Prescriptive method for gable roofs on a masonry wall. The anchorage of each of the exposed rafters or truss within 6 ft of the corner along the exterior wall on each side of each gable end shall be inspected. Wherever a strap is missing or an existing strap has fewer than four fasteners on each end, approved straps, ties or right angle gusset brackets with a minimum uplift capacity of 500 lbs shall be installed that connect each rafter or truss to the top plate below or directly to the masonry wall using approved masonry screws of a length and diameter recommended by the manufacturer. In the absence of manufacturer's recommendations, screws shall provide at least a 2-1/2 inch embedment into the concrete or masonry. When the straps or right angle gusset brackets are attached to a wood sill plate, the sill plate shall be anchored to the concrete masonry wall below. This anchorage shall be accomplished by installing 1/4-inch diameter masonry screws, each with supplementary 1/4-inch washer, having sufficient length to develop a 2-1/2 inch embedment into the concrete and masonry. These screws shall be installed within 4-inches of the truss or rafter on both sides of each interior rafter or truss and on the accessible wall side of the gable end truss or rafter.


MOD 4470

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**Florida Building Code,
Mechanical**

Significant
Code
Changes



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FBC-M 202

AIR CONDITIONING. The process of treating air to control its temperature, humidity, cleanliness and distribution to meet requirements of the conditioned space.

AIR CONDITIONING. The treatment of air so as to control simultaneously the temperature, humidity, cleanness and distribution of the air to meet the requirements of a conditioned space.

Restores Base Code Language

Mod 3749 13

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FBC-M 202

AIR DISTRIBUTION SYSTEM. Include all building elements (duct systems, air handling units, cavities of the building structure and mechanical closets) through which air is delivered to or from the conditioned spaces.

AIR DISTRIBUTION SYSTEM. Any system of ducts, plenums and air-handling equipment that circulates air within a space or spaces and includes systems made up of one or more air-handling units.

Restores Base Code Language

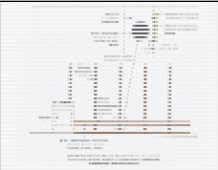
Mod 3750 13

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FBC-M 504.6.7

Protective shield plates shall be placed where nails or screws are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 11/4 inches between the duct and the finished face of the framing member.

Protective shield plates shall be constructed of steel, have a thickness of 0.062 inch and extend a minimum of 2 inches above sole plates and below top plates.



BASE CODE

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FBC-M 603.11

~~603.11 Furnace connection. Reserved.~~

603.11 Furnace connections. Ducts connecting to a furnace shall have a *clearance* to combustibles in accordance with the furnace manufacturer's installation instructions.

RATIONALE: Restores provision from IMC 2009 as provisions for furnace connections are needed in the code.
Mod 3785

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FBC-M 603.14

~~603.14 Location. Ducts shall not be installed in or within 6 inches (152 mm) of the earth, except where such ducts comply with Section 603.7.~~



603.14 Location. Ducts shall not be installed in or within 4 inches (102 mm) of the earth, except where such ducts comply with Section 603.8.

RATIONALE: Reduces clearance to the ground and corrects reference to appropriate code section.
Mod 3788

Slide 35

FBC-P 403.4.1

New requirement (Public Restrooms).
Directional signage indicating the route to the nearest public facility is now required to be clearly displayed in a major corridor or aisle near the entrance of the building.




BASE CODE

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FBC-P 403.3 & 403.3.1

Code previously did not provide clear guidance on access where plumbing facilities are located on the exterior of the building. This requirement often needs clarification and is most often found in gas stations, strip malls with central restrooms and outdoor bleachers and grandstands where restrooms are in a separate building.

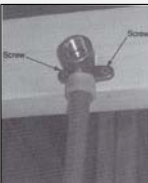


BASE CODE

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FBC-P 417.2

The modification makes clear the need for a shower arm receiver is to be anchored with "screws" to reduce the possibility of failure caused by installation stress.



417.2 Water supply riser. Water supply risers from the shower valve to the shower head outlet, whether exposed or concealed, shall be attached to the structure. The attachment to the structure shall be made by the use of support devices designed for use with the specific piping material or by fittings anchored with screws.

BASE CODE

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FBC-EC 403.2.5

403.2.5 Air distribution system sizing and design. (Mandatory) All air distribution systems shall be sized and designed in accordance with recognized engineering standards such as ACCA Manual D or other standards based on the following:

1. Calculation of the supply air for each room shall be based on the greater of the heating load or sensible cooling load for that room.
2. Duct size shall be determined by the supply air requirements of each room, the available static pressure and the total equivalent length of the various duct runs.
3. Friction loss data shall correspond to the type of material used in duct construction.

RATIONALE: Restate a code requirement for clarity. (13-610.AB.1)

MOD 4197 AM 61

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FBC-EC 402.2.5

402.2.5 Steel-frame ceilings, walls, and floors. Steel frame ceilings, walls and floors shall meet the insulation requirements of Table 402.2.5 or shall meet the U-factor requirements in Table 402.1.3. The calculation of the U-factor for a steel-frame envelope assembly shall use a series-parallel path calculation method.

Exception: ~~in Climate Zones 1 and 2, the continuous insulation requirements in Table 402.2.5.4 shall be permitted to be reduced to R-3 for steel frame wall assemblies with studs spaced at 24 inches on center shall be permitted to use the equivalent insulation requirements in Table 402.2.5.(2).~~

RATIONALE: This adds choices for steel framed walls by adding values for 24 inch stud spacing, adding flexibility and encouraging efficient framing. It also corrects a limitation in the code. The values are derived from the US DOE's RESCheck. Builders would also be able to use the U-factor tables found in the ASHRAE 90.1.

MOD 3943 5

FBC-EC 402.2.5

**TABLE 402.2.5.(2) – STEEL FRAME WALL INSULATION
R-VALUE FOR 24 INCH SPACING OF STUDS**

Wood frame wall R-value requirement	Steel frame wall equivalent R-value at 24 inch spacing of studs
R-13	13+3.0 or 15+2.4 or 0+9.3
R-19	13+7.4 or 15+6.8 or 19+6.0 or 21+5.6
R-20	13+7.6 or 15+7.1 or 19+6.3 or 21+5.9
R-21	13+8.3 or 15+7.7 or 19+6.9 or 21+6.5

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FBC-EC 403.2.1

403.2 Ducts.

403.2.1 Insulation (Prescriptive). Supply ducts, including air filter enclosures, air ducts and plenums, located in attics or on roofs shall be insulated to a minimum of R-8. All other ducts shall be insulated to a minimum of R-6.

Exceptions:

1. Ducts or portions thereof located completely inside the building thermal envelope.
2. Exhaust air ducts
3. Factory-installed plenums, casings or ductwork furnished as a part of tested and rated HVAC equipment.

RATIONALE: Restate a code requirement for clarity. (13-610.AB.1)

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FBC-EC 403.9 *Continued*

403.9.1.2 Heat pump pool heaters. Heat pump pool heaters shall have a minimum COP of 4.0 when tested in accordance with ARI 1160, Table 2, Standard Rating Conditions-Low Air Temperature. A test report from an independent laboratories is required to verify procedure compliance.

403.9.2 Time switches. Time switches shall be installed on swimming pool heaters and pumps that can automatically turn off and on the heaters and pumps off and on according to a preset schedule shall be installed on swimming pool heaters and pumps.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Where pumps are required to operate solar- and waste-heat-recovery pool heating systems.
3. Where pumps are powered exclusively from on-site renewable generation.

MOD 4078 AM 67

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FBC-EC 405.3 & B-1.1.1

SECTION 405 SIMULATED PERFORMANCE ALTERNATIVE (Performance)

405.3 Performance-based compliance. Compliance based on simulated energy performance requires that a proposed residence (Proposed Design) be shown to have an annual normalized, modified energy load that is less than or equal to 80% of the annual energy load of the Standard Reference Design after applying the 0.80 adjustment factor to the Standard Reference Design as specified in Normative Appendix B, Section B-1.1.1 to make the code 20 percent more stringent than the "2007". (Effective October 31, 2007) Florida energy code's Standard Reference Design (Baseline) features. Appendix B

MOD 3945 AM 7

FBC-EC 405.3 & B-1.1.1

B-1.1.1 405.3-1 General. Except as specified by this section, the Standard Reference Design and Proposed Design shall be configured and analyzed using identical methods and techniques. The Standard Reference Design totals for the Simulated Performance Alternative compliance method developed in accordance with the criteria compliance based on simulated energy performance requires that a proposed residence (Proposed Design) be shown to have an annual normalized, modified energy load that is less than or equal to 80% of the annual energy load of the Standard Reference Design as specified in Sections B-1.1.2-405.5-2 and 405-3 shall be adjusted by a factor of 0.80 to make the code 20 percent more stringent than the "2007". (Effective October 31, 2007) Florida energy code's Standard Reference Design (Baseline) features.

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FBC-EC 405.4.1

405.4.1 Compliance software tools. Documentation verifying that the methods and accuracy of the Energy Gauge USA Fla/Res compliance software tools shall be utilized to conform to the provisions of this section and be provided to the code official, provided to the code official. Compliance software provisions and overall stringency shall be as described in Normative Appendix B.

RATIONALE: This is an unnecessary departure from IECC language nor conflicts with the actual language of FL Statute 553.995. The original IECC language will allow the use of Energy Gauge, so therefore there is no need to adapt the language.

MOD 4462 AM 69

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FBC-EC 405.6

B-1.2 405.6 Calculation software tools. Only The ~~EnergyGauge USA Fla Res-compliance software tools or other software tools as approved by the Florida Building Commission shall be utilized to conform to the provisions of Section 405.~~

RATIONALE: This provision gives the Florida Building commission the option to approve additional software tools that can meet the provisions laid out in this appendix. Although Florida has not had yet other tools available, other manufacturers may attempt to meet these computing criteria. As with all other products associated with the code, competition is essential to meet free market requirements.

MOD 4457 AM 70

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FBC-EC 502.1.1.1(2)

TABLE 502.1.1.1(2) Part B ENVELOPE PRESCRIPTIVE MEASURES FOR RENOVATIONS AND ALTERATIONS ¹	
Building Element	Mandatory
Window:	
U-factor	= 0.45
SHGC (by window area)	
0-40% WW Ratio	0.25
>40 WW Ratio	0.25 0.25
Skylights:	
SHGC	= 0.19
Skylight U-value	= 1.36
Opaque Door U-value	
Swinging	= U-0.7
Non-swinging	= U-1.45

RATIONALE: Roof, Wall and Raised Floor R-value change: The latest ASHRAE and IECC codes for commercial buildings have R-38 (roof) and R-19 (wall, raised floor) as the maximum recommended values.

MOD 4050 9

FBC-EC 502.1.1.1(2)

TABLE 502.1.1.1(2) Part A ENVELOPE PRESCRIPTIVE MEASURES FOR RENOVATIONS AND ALTERATIONS ¹	
Building Element	Mandatory
Roof:	
Absorptance	= 0.22
R-value (U-value)	R-40 (U=0.025); R-38 (U= 0.033)
Exterior Wall:	
Above grade wall:	
Absorptance	= 0.3
R-value (U-value)	R-38 (U=0.033); R-19 (U= 0.032)
Below grade wall:	No requirement
Raised Floor Insulation	
R-value (U-value)	R-30 (U=0.033); R-19 (U= 0.052)

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FBC-EC Appendix D
Portable Spa Energy Efficiency

Add New Appendix:

APPENDIX D—FLORIDA STANDARDS
FLORIDA STANDARD NO. 3 (FL-3)

FLORIDA REGULATORY REQUIREMENTS FOR
PORTABLE SPA ENERGY EFFICIENCY

RATIONALE: This proposal provides criteria to the manufacturers of portable spas & contractors who install these products on what is required to meet the standby power requirement in s. 403.9.5 of the FECC & the 2008 energy bill. A permit may be required when installing a portable spa & the criteria includes labeling requirements to assist inspectors.

MOD 4072 81
